5. GLOSSARY

The following definitions have been gathered from a variety of sources, including the Forests and Fish Report (April 1999). The definitions are not necessarily the same as those in the Forest Practices Act; the forest practices rules (WAC 222); the new emergency rules adopted by the FPB (effective March 20, 2000); or the new permanent rules to be developed and proposed by the FPB later this year.

Adaptive management – A formal process for a) evaluating the current resource status, b) evaluating the effectiveness of rules and guidance necessary to meet the goals and objectives for the protection, maintenance, and enhancement of resources, c) making any necessary adjustments to management practices, and d) requiring mitigation, where necessary to achieve resource objectives.

Alluvial fan – See "sensitive sites" definition.

Anadromous fish – Those species of fish that mature in the ocean and migrate to freshwater streams to spawn; an example is salmon.

Angular canopy density (ACD) – A measure of solar radiation reaching a stream; the projection of canopy closure measured at the angle at which solar radiation directly passes through the canopy to the stream.

Archaeological object – An object that comprises the physical evidence of an indigenous and subsequent culture including material remains of past human life including monuments, symbols, tools, facilities, and technological by-products (from RCW 27.53.030).

Archaeological resources – All sites, objects, structures, artifacts, implements, and locations of prehistorical or archaeological interest, whether previously recorded or still unrecognized, including, but not limited to, those pertaining to prehistoric and historic American Indian or aboriginal burials, campsites, dwellings, and habitation sites, including rock shelters and caves, their artifacts and implements of culture such as projectile points, arrowheads, skeletal remains, grave goods, basketry, pestles, mauls and grinding stones, knives, scrapers, rock carvings and paintings, and other implements and artifacts of any material that are located in, on, or under the surface of any lands or waters owned by or under the possession, custody, or control of the state of Washington or any county, city, or political subdivision of the state (from RCW 27.53.040).

Archaeological site – A geographic locality in Washington, including, but not limited to, submerged and submersible lands and the bed of the sea within the state's jurisdiction, that contains archaeological objects (from RCW 27.53.030).

Bankfull depth – The elevation difference between the thalweg and the water surface of a stream flow having a return period of approximately 1.5 years. The horizontal projection of this water-surface elevation to the stream bank or the top of the geomorphic floodplain indicates bankfull depth. The top of the active floodplain of a stream is commonly

indicated by the top of the point bar, by a change in vegetation from bare surfaces or water-tolerant species to water-intolerant shrubs and trees, by a break in slope, or by a change in the size distribution of surface sediments.

Bankfull width – For any stream, the average distance between the elevations indicated by bankfull depth. The top of the active floodplain of a stream is often indicated by the top of the point bar, by a change in vegetation from bare surfaces or water-tolerant species to water-intolerant shrubs and trees, by a break in slope, or by a change in the size distribution of surface sediments.

Basal area – The area in square feet of the cross-section of a tree bole measured at 4.5 feet above the ground.

Bull trout habitat overlay – Those portions of eastern Washington streams containing bull trout habitat as identified in the Department of Fish and Wildlife's bull trout habitat overlay map. Prior to the development of a bull trout field protocol and of the habitat-based predictive model, the bull trout habitat overlay map may be modified to allow for locally-based corrections using current data, field knowledge, and best professional judgment. A landowner may meet with the Departments of Natural Resources and Fish and Wildlife and, in consultation with affected tribes and federal biologists, determine whether certain stream reaches have habitat conditions that are unsuitable for bull trout. If such a determination is mutually agreed on, documentation submitted to the department will result in the applicable stream reaches no longer being included within the definition of bull trout habitat overlay. Conversely, if suitable bull trout habitat is discovered outside the current mapped range, those waters will be included within the definition of bull trout habitat overlay by a similar process.

Bedrock hollow – (Colluvium-filled bedrock hollows or hollows; also referred to as zero-order basins, swales, or bedrock depressions) Landforms that are commonly spoon-shaped areas of convergent topography (upward or contour concavity) within unchannelled valleys on hillslopes. Hollows are formed on slopes of varying steepness and tend to be longitudinally linear on the slope. Their upper ends can extend to the ridge, or begin as much as several hundred feet below. Most hollows are approximately 75 to 200 feet wide at the top and may narrow to 30 to 60 feet downhill. They terminate at distinct channels, either at the point of channel initiation or along a stream side. Bedrock hollows typically experience episodic evacuation of debris by shallow-rapid mass movement, followed by slow refilling with colluvium. Debris slides that begin within bedrock hollows commonly evolve into debris torrents, which have the potential to reach great distances downhill and downstream.

Biological diversity – The relative degree of abundance of wildlife species, plant species, communities, habitats or habitat features man area.

Blowdown – Trees felled by high winds.

Board foot – The amount of wood equivalent to a piece 1 foot by 1 foot by 1 inch thick.

Bog – A hydrologically isolated, low nutrient wetland that receives its water from precipitation only. Bogs typically have no inflow and rarely have outflows. Bogs have peat soils 16 or more inches in depth (except where over bedrock), and specifically adapted vegetation such as sphagnum moss, Labrador tea, bog laurel, sundews, and some sedges. Bogs may have an overstory of spruce, hemlock, cedar, or other tree species, and may be associated with open water.

Buffer – A forested strip left during timber harvest to conserve sensitive ecosystems or wildlife habitat, or potentially unstable slopes. Management activities may be allowed as long as they are consistent with the objectives for the buffer.

Canopy – The continuous cover of branches and foliage formed collectively by the crowns of adjacent trees and other woody growth. See also "understory canopy" and "overstory canopy."

Canopy closure – The degree to which the canopy (forest layers above one's head) blocks sunlight or obscures the sky. See also relative density.

Channel migration zone – For each of the types of streams described below, the area where the active channel of such stream is prone to move and where movement would result in a potential near-term loss of riparian forest adjacent to the stream. For purposes of this report, channel migration zones are associated with moderately confined streams, and unconfined avulsing streams.

Class IV-Special – A Washington forest practices class; forest practices that fall under SEPA (RCW 76.09.05), as they have been determined to have potential for a substantial impact on the environment, and so require an environmental checklist and additional review.

Clearcut – A harvest method in which all or almost all of the trees are removed in one cutting; an even-aged silvicultural system. Clearcutting establishes a stand without protection from an overstory canopy.

Climax – The culminating, highly stable stage in plant succession for a given environment; an ecosystem will stay at the climax stage until disturbance affects the ecosystem and the stages of ecological succession begin again.

Closed-canopy forest – Coniferous forests between 40 and 70 years of age. Also called closed forest; a forest habitat description for DNR-managed forest lands.

Code of Federal Regulations (CFR) – A codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.

Commercial thinning – The removal of generally merchantable trees from an even-aged stand, so that the remaining trees can develop faster and with less competition.

Compliance monitoring – Monitoring conducted to determine if required measures for the protection, maintenance, and enhancement of resources are implemented. Sometimes referred to as "implementation monitoring."

Convergent headwall (or headwalls) – Landforms that are teardrop-shaped, broad at the ridgetop and terminate where headwaters converge into a single channel. They are broadly concave both longitudinally and across the slope, but may contain sharp ridges that separate the headwater channels. Convergent headwalls generally range in size from about 30 to 300 acres; slope gradients are typically steeper than 35 degrees and may exceed 45 degrees. Soils are thin because slides are frequent in these landforms. It is the arrangement of bedrock hollows and first-order channels on the landscape that causes a convergent headwall to be a unique mass-wasting feature. The highly convergent shape of the slopes, coupled with thin soils, allows rapid saturation during rainfall and/or snowmelt. The mass-wasting response of these areas to storms, to natural disturbances such as fire, and to forest practices is much greater than is observed on other steep hillslopes in the same geologic settings. Convergent headwalls are also prone to surface erosion. Landslides that evolve into debris flows in convergent headwalls typically deliver debris to larger channels downstream. Channel gradients are extremely steep within headwalls, and generally remain so for long distances downstream. Channels that exit the bottoms of headwalls have been formed by repeated debris flows and have forms and gradients that are efficient at conducting them. Convergent headwalls commonly have debris fans at the base of their slopes.

Core zone – (i) for the east side, the area between the edge of a Type S or F water and a line 30 feet from the edge of such water (measured as horizontal distance) and (ii) for the west side, the area between the edge of a Type S or F water and a line 50 feet from the edge of such water (measured as horizontal distance).

Covered resources – Water quality, fish, the Columbia torrent salamander (*Rhyacotriton kezeri*), the Cascade torrent salamander (*Rhyacotriton cascadae*), the Olympic torrent salamander (*Rhyacotriton olympian*), the Dunn's salamander (*Plethodon dunni*), the Van Dyke's salamander (*Plethodon vandyke*), the tailed frog (*Ascaphus truei*) and their respective habitats.

Critical habitat, federal – Areas designated under the federal Endangered Species Act that have the physical and biological features necessary for the conservation of a listed species, or which require special management considerations or protection.

Critical habitat, state – Habitats of threatened or endangered species as designated by the Washington Forest Practices Board (WAC 222-16-080).

Cultural resources – Archaeological and historic sites and artifacts and traditional religious, ceremonial and social uses and activities of affected Indian tribes (from WAC 222-16-010).

Debris slide – The very rapid and usually sudden sliding and flow of incoherent, unsorted mixtures of soil and weathered bedrock.

Debris flow – A moving mass of rock, soil, debris, and mud, more than half the particles being larger than sand size; can travel many miles down steep confined mountain channels; a form of debris torrent.

Debris torrent – Debris flow or dam-break flood. Rapid movement of a large quantity of materials, including wood and sediment, down a stream channel. Usually occurs in smaller streams during storms or floods, and scours the stream bed in steeper channels.

Deep-seated landslide – Landslides in which the zone of movement is mostly below the maximum rooting depth of forest trees, to depths of tens to hundreds of feet. Deep-seated landslides can vary greatly in size (up to thousands of acres) and activity level and can occur almost anywhere on the hillslope. Deep-seated landslides are usually formed in incompetent materials such as glacial deposits, volcaniclastic rocks, and fault gouge. Commonly, development of a deep-seated landslide begins after a slope has been over-steepened by glacial or fluvial undercutting; however, the initiation of such slides has also been associated with changes in land use, increases in ground-water levels, and the degradation of material strength through natural processes. Movement can be translational, rotational, or complex, range from slow to rapid, and include small to large displacements. Deep-seated landslides in bedrock commonly occur in masses that are relatively weak. Those in glacial deposits are common in thicker deposits, usually where very permeable and impermeable materials are juxtaposed. Impermeable deposits can perch ground water, causing elevated pore-water pressures in the overlying deposits, which can then slide out and downward. The groundwater recharge area for a glacial deep-seated slide is the area upslope that can contribute water to the landslide. It is initially assumed to be equivalent to the topographically defined sub-basin directly above the active slide; the spatial extent of the groundwater recharge area can be identified in the field using one of several methods (as explained in the Forest Practices Board Manual). Many deep-seated landslides occur in the lower portions of hillslopes and extend directly into streams. In such situations, streams can undercut the landslide toes, promoting further movement; such over-steepened toes can also be sensitive to changes caused by harvest and road construction. On the other hand, deep-seated landslides confined to the upper slopes may not have the ability to deposit material directly into channels. The ability of scarps and marginal streams to deliver sediment to waters or structures varies with local topography. Steep marginal streams can be subject to debris-flow initiation.

Desired future condition (DFC) – The stand conditions of a mature riparian forest at 140 years of age.

Diameter at breast height (dbh) – The diameter of a tree, measured 4.5 feet above the ground on the uphill side of the tree.

Dispersal – The movement of juvenile, subadult, and adult animals from one sub-population to another. For juvenile spotted owls, dispersal is the process of leaving the natal territory to establish a new territory.

Early seral stage – Forest development classification that corresponds with: (1) closed sapling-pole, small sawtimber condition (Brown 1985); (2) young forest (Spies and Franklin 1991); and (3) stand initiation stage, stem exclusion stage (Oliver 1981).

Earthflow – Mass movement process and landform characterized by downslope translation of soil and weathered rock over a landslide within well-defined lateral boundaries.

Eastern Washington – The geographic area in Washington east of the crest of the Cascade Mountains from the international border to the top of Mt. Adams; then east of the ridge line dividing the White Salmon River drainage from the Lewis River drainage, and east of the ridge line dividing the Little White Salmon River drainage from the Wind River drainage, to the Columbia River.

Eastern Washington timber habitat types –

Tree Species Zone	Elevation
Ponderosa pine	0 – 2,500 feet
Mixed conifer	2,500 – 5,000 feet
High elevation	Above 5,000 feet

Edge (habitat) – An abrupt change between adjacent plant communities, successional stages, or vegetative conditions.

Edge (water) – Edge of any water means the outer edge of the water's bankfull width or, where applicable, the outer edge of the associated channel migration zone.

Edge effects – The modified environmental conditions along the margins, or edges, of forest patches.

Effectiveness monitoring – Monitoring conducted to determine if measures implemented for the protection, maintenance, and enhancement of resources have the desired effect.

Endangered Species Act (ESA) – The federal Endangered Species Act of 1973 (16 U.S.C. §1531 et. seq.), as amended, sets up processes by which plant and animal species can be designated as threatened or endangered. Two federal agencies, the USFWS and NMFS, administer the act. Once species are listed, the act also provides that these agencies develop recovery plans for these species, including conserving the ecosystems on which listed species depend.

Endemic – Term used to describe a species whose habitat exists in a particular area.

Environmental impact statement (EIS) – A document prepared under the National or State Environmental Policy Acts to assess the effects that a particular action or program will have on the environment.

Equipment limitation zone – The area between the edge of a Type N water and a line 30 feet (measured as horizontal distance) from such edge.

Even-aged – A system of forest management in which stands are produced or maintained with relatively minor differences (generally, less than 10 years) in age.

Evolutionarily significant units (ESU) – A population that is substantially reproductively isolated from other population units of the same species, and represents an important component in the evolutionary legacy of the species.

Extirpation – The elimination of a species from a particular area.

Federally listed – Species formally listed as a threatened or endangered species under the federal Endangered Species Act; designations are made by the USFWS or NMFS.

Fish – For purposes of this agreement, species of the vertebrate classes Cephalospidomorphi and Osteichthyes.

Forest Practices Act – A Washington State statute (chapter 76.09 RCW) establishing minimum standards for forest practices, and providing for necessary administrative procedures and rules applicable to activities conducted on or pertaining to forests, on both state managed and private lands. (chapter 76.09 RCW)

Forest Practices Board – A Washington State agency created by the Forest Practices Act to adopt forest practices rules that protect public resources coincident with the maintenance of a viable forest products industry. These rules are administered and enforced by the Washington Department of Natural Resources.

Fragmentation – The spatial arrangement of successional stages across the landscape as the result of disturbance; often used to refer specifically to the process of reducing the size and connectivity of late-successional or old-growth forests.

Geographic information system (GIS) – A computer system that stores and manipulates spatial data, and can produce a variety of maps and analyses. DNR's GIS is able to: (1) assign information and attributes to polygons and lines, which represent relationships on the ground; and (2) update and retrieve inventory, mapping, and statistical information. DNR uses its GIS as one of several tools for setting landscape-level planning objectives.

Geomorphic processes – Landscape-modifying processes such as surface erosion, mass wasting, and stream flow.

Green-tree retention – A stand management practice in which live trees are left within harvest units to provide habitat after harvest.

Habitat conservation plan (HCP) – An implementable program for the long-term protection and benefit of a species in a defined area; required as part of a Section 10 incidental taking permit application under the federal Endangered Species Act.

Habitat preference – The choice of habitat(s) that an animal would make if all habitat types were available to it.

Habitat selection – The choice of habitat(s) directly available to an animal.

High-elevation habitat type – The habitat series on the east side ranging from elevations of 5,000 feet to the tree line.

Historic archaeological resources – Those properties which are listed in or eligible for listing in the Washington State Register of Historic Places (RCW 27.34.220) or the National Register of Historic Places as defined in the National Historic Preservation Act of 1966 (Title 1, Sec. 101, Public Law 89-665; 80 Stat. 915; 16 U.S.C. Sec. 470) as amended (from RCW 27.53.030).

Historic site – Includes: sites, areas and structures or other evidence of human activities illustrative of the origins, evolution and development of the nation, state or locality; or places associated with a personality important in history; or places where significant historical events are known to have occurred even though no physical evidence of the event remains. (from WAC 222-16-010).

Horizontal distance – The distance on a line parallel to the horizon (not parallel to the slope).

Hydrologic analysis unit (HAU) – Subdivisions of the watershed administrative unit (WAU) used in the hydrology module of the Washington Forest Practices Board's watershed analysis procedures.

Hydrologic maturity – The degree to which hydrologic processes (e.g., interception, evapotranspiration, snow accumulation, snowmelt, infiltration, runoff) and outputs (e.g., water yield and peak discharge) in a particular forest stand approach those expected in a late seral stand under the same climatic and site conditions. In DNR's HCP, a hydrologically mature forest, with respect to rain-on-snow runoff, is a well-stocked conifer stand 25 years or older.

Hyporheic – Refers to the area adjacent to and below channels where interstitial water is exchanged with channel water.

Identifiable channel – A channel with well-defined and measurable banks where vegetative ground cover has been disturbed and sediment is exposed.

Implementation Agreement (IA) – A part of the application for an incidental take permit, which specifies the terms and conditions, resources, schedule of activities, and expectations to the parties of the agreement.

Incidental take – The taking of member of a federally listed wildlife species, if the taking is incidental to, and not the purpose of, carrying out otherwise lawful activities.

Incidental take permit – Permit issued by the USFWS to a nonfederal entity (state, tribe, private landowner), that allows incidental taking of a threatened or endangered; permit also requires permittee to carry out specified actions that minimize and mitigate the taking.

Inner gorges – Canyon walls created by a combination of stream downcutting/ undercutting action and mass movement on the slope walls. Inner gorges may show evidence of recent movement, such as obvious landslides, vertical tracks of disturbance vegetation, or areas that are concave in contour and/or profile. In competent bedrock, slope gradients of 35 degrees or steeper can be maintained, but soil mantles are increasingly sensitive to root-strength loss at these angles; slope gradients as gentle as 28 degrees can be unstable in gorges cut into incompetent bedrock. The top of the inner gorge is typically a distinct break in slope, but in some places the upper boundary is a subtle zone where the slope becomes markedly steeper or convex downhill. Inner gorge walls can be continuous for great lengths, as along a highly confined stream that is actively downcutting; or they can be discontinuous, as along a flood-plain channel that is undercutting the adjacent hillslopes in isolated places where the stream has meandered to the valley edge. Inner gorges experiencing mass wasting are likely to deliver sediment to waters or structures downhill. Exceptions can occur where benches of sufficient size to stop moving material exist along the gorge walls but these are uncommon. Inner gorges are distinguished from ordinary steep valley sides; ordinary valleys can be V-shaped with distinct slope breaks at the top, but they commonly do not show evidence of recent movement.

Inner zone – For the east side, the area between the outer boundary of the adjacent core zone and a line 75 or 100 feet from the edge of the affected water (in each case measured as horizontal distance). For the west side, the area between a line 50 feet from the edge of a Type S or F water and the inner zone outer boundary. The inner zone outer boundary will be determined based on the size of the affected water and the management option, if any, elected for timber harvest within such inner zone.

Interagency Scientific Committee – The U.S. Interagency Scientific Committee to address the conservation of the northern spotted owl; cited in this document as Thomas et al. (1990).

Interception – In hydrology, the rain and snow caught in the forest canopy.

Interior-core riparian buffer – Streamside buffer in the HCP Olympic Experimental State Forest riparian strategy; minimizes disturbance of unstable channel banks and adjacent hillslopes, and protects and aids natural restoration of riparian processes and functions. See also buffer.

Landscape – Large regional units of lands that are viewed as a mosaic of communities, or a unit of land with separate plant communities or ecosystems forming ecological units with distinguishable structure, function, geomorphology, and disturbance regimes. In the HCP, a landscape is defined as a large area comprising various interacting patterns of stand structure and function going through alterations over time.

Landscape planning – The process of planning for a specified landscape by setting specific objectives for a given area, such as protection of wildlife and timber production.

Landscape-level planning – The process of planning across an area larger than individual stands or harvest areas.

Landslide – Any mass movement process characterized by downslope transport of soil and rock, under gravitational stress, by sliding over a discrete failure surface; or the resultant landform. In forested watersheds, landsliding typically occurs when local changes in the pore-water pressure increase to a degree that the friction between particles is inadequate to hold the mass on the slope.

Large woody debris – Large pieces of wood in stream channels or on the ground, includes logs, pieces of logs, and large chunks of wood; provides streambed stability and/or habitat complexity. Also called coarse woody debris or down woody debris. Large organic debris is large woody debris, but may contain additional nonwoody debris, such as animal carcasses.

Late-successional forest – A mature and/or old-growth forest stand, also called late seral-stage forest. Typical characteristics are moderate to high canopy closure, a multi--layered, multi-species canopy dominated by large overstory trees, many large snags, and abundant large woody debris (such as fallen trees) on the ground. Typically, stands 80-120 years old are entering this stage.

Listed wildlife species – Species formally listed as endangered, threatened, or sensitive by a federal (USFWS or NMFS) or state (Washington Fish and Wildlife Commission) agency.

Low-order streams – Small streams with very few tributaries; often are headwaters. Type 4 and 5 waters are low order streams.

Mass wasting – Dislodgment and downslope transport of soil and rock under the direct application of gravitational stress.

Mature stand – A forest stand in the period from culmination of mean annual increment to old-growth stage or to 200 years. This is a time of gradually increasing stand diversity. Hiding cover, thermal cover, and some forage may be present. See also "mid-seral stage."

Mid-seral stage – Forest development classification that corresponds with: (1) large sawtimber condition (Brown 1985); (2) mature forest (Spies and Franklin 1991); and (3) understory reinitiation stage (Oliver 1981). Age of dominant trees is 80-195 years (Spies and Franklin 1991); due to stand density, brush, grass, or herbs decrease in the stand. Hiding cover may be present.

Mixed conifer habitat type – The habitat series on the east side ranging from elevations above 2500 feet up to 5,000 feet.

National Environmental Policy Act (NEPA) – The law that is the basic national charter for protection of the environment. NEPA requires all federal agencies to consider and analyze all significant environmental impacts of any action proposed by those agencies; to inform and involve the public in the agencies' decision-making processes; and to consider the environmental impacts in those processes.

National Marine Fisheries Service (NMFS) – The federal agency that is the listing authority for marine mammals and anadromous fish under the federal Endangered Species Act.

Old-growth forest – A forest that is in the successional stage after maturity, which may or may not include climax old-growth species; the final seral stage. Typically, it contains trees older than 200 years. Stands containing Douglas-fir older than 160 years which are past full maturity and starting to deteriorate may be classified as old growth. The OESF GIS forest classification for old growth is: a dominant dbh of 30 inches or greater; usually more than eight dominant trees/acre; three or more canopy layers with less than complete canopy closure; several snags/acre with a 20 inch dbh or greater; and several down logs/acre with a 24 inch dbh or greater.

Outer zone – The area, if any, between the outer boundary of the inner zone and a line one site potential tree height in length (measured as horizontal distance) from the edge of the affected water.

Partial cutting – Removal of selected trees from a forest stand, leaving an uneven-aged stand of residual, healthy trees. Also called uneven-aged management.

Perennial stream – Means, in the FPB emergency rules effective March 20, 2000, Type 4 waters: all segments of natural waters within the bankfull width of defined channels that are not Type 1, 2 or 3 Waters and which are perennial waters of non-fish-bearing streams. Perennial waters means waters downstream from a perennial initiation point.

Physiographic province – A region having similar geologic structure and climate, and which had a consistent geomorphic history; a region whose pattern of relief features or landforms differs significantly from that of adjacent regions.

Placement strategy – A strategy for the placement of woody debris in streams. The strategies will consist of standards and guidelines describing types of streams, the nature of the wood, and the manner of placement. Placement strategies will be developed through a cooperative process by the authors of this report and will be consistent with the hydraulics code so as to avoid the need for separate permits. The strategies will provide an incentive ratio of one unit deposited to streams for every two units otherwise required to be left. As provided below, the placement strategies may substitute for prescriptions otherwise required by the recommendations set forth in this report.

Ponderosa pine habitat type – The habitat series on the east side ranging from the lower elevation limit of tree growth to an elevation of 2,500 feet.

Precommercial thinning – Cutting trees at an immature age to allow for better growth of the remaining trees; may include removal of excess and/or diseased trees 10-35 years old.

Preferred tree species – The following species listed in descending order of priority for each timber habitat type:

Ponderosa Pine Habitat Type	Mixed Conifer Habitat Type
all hardwoods	all hardwoods
ponderosa pine	western larch
western larch	ponderosa pine
Douglas-fir	western redcedar
western red-cedar	white pine
	Douglas-fir
	lodgepole pine

Priority habitat – As defined by the WDFW, priority habitat is a habitat type with unique or significant value to many species. It must have one or more of the following attributes: (1) comparatively high fish and wildlife density; (2) comparatively high fish and wildlife species diversity; (3) important fish and wildlife breeding habitat; (4) important fish and wildlife seasonal ranges; (5) important fish and wildlife movement corridors; (6) limited availability; (7) high vulnerability to habitat alteration; and/or (8) unique or dependent species. A priority habitat may be described by a unique vegetation type (e.g., oak woodlands) or by a dominant plant species that is of primary importance to fish and wildlife. A priority habitat may also be described by a successional stage (e.g., old-growth and mature forests). Alternatively, a priority habitat may consist of a specific habitat element (e.g., talus slopes, caves, snags) that is of key value to fish and wildlife. A priority habitat may contain priority and/or non-priority fish and wildlife species.

Priority species – As defined by the WDFW, priority species are fish and wildlife species requiring protective measures and/or management guidelines to ensure their perpetuation.

Proposed 4(d)d special rule – Refers to section 4(d) of the federal Endangered Species Act. Pursuant to section 4(d), special rules promulgated with respect to a particular federally listed species. Such special rules may permit incidental taking so long as they meet the conservation needs of the listed species.

Proposed threatened or endangered species – Species proposed by the USFWS or NMFS for listing as threatened or endangered under the federal Endangered Species Act; not a final designation.

Protected species – A state designation. Protected wildlife includes: all birds not classified as game birds; predatory birds; or endangered species designated by the Washington Fish and Wildlife Commission; hunting and fishing of these species is not allowed. Protected species are listed in WAC 232-12-011.

Qualified expert – With regard to slope-instability issues: a person with at least (i) either: (A) a master's degree in geology or geomorphology or a related field, or (B) a significant amount of post-graduate course or thesis work or other training in geomorphology or mass-movements; and (ii) an additional 5 years of field experience in the evaluation of relevant problems in forested lands.

Rain-on-snow zone – Area, generally defined as an elevation zone, where it is common for snowpacks to be partially or completely melted during rainstorms.

Recovery plan – A plan developed by a government agency, that if implemented will result in the recovery of a threatened or endangered species to the extent that the species can be removed from threatened or endangered status.

Revised Code of Washington (RCW) – A revised, consolidated, and codified form and arrangement of all the laws of the state of a general and permanent nature.

Riparian area – Areas of land directly influenced by water or that influence water. Riparian areas usually have visible vegetative or physical characteristics reflecting the influence of water. Riversides and lake shores are typical riparian areas.

Riparian buffer – As defined for the HCP's west-side planning units, the inner buffer of the riparian management zone that serves to protect salmonid habitat. See also riparian management zone.

Riparian ecosystem – In DNR's HCP, the area of direct interaction between terrestrial and aquatic environments.

Riparian leave trees – In relation to the west side region, and in that context means conifer trees with a dbh of 12 inches or greater; or, in the case of trees left to protect a sensitive feature, such trees as are representative of the overstory, canopy trees in or around such sensitive features (including, where applicable, hardwoods), and which have a dbh of eight inches or greater.

Riparian management zone (RMZ) –

(1) For western Washington

(a) The area protected on each side of a Type 1, 2, or 3 water measured horizontally from the bankfull width or the CMZ, whichever is greater, and

Site Class	Western Washington Total RMZ Width (ft)
I	200’
II	170’
III	140’
IV	110’
V	90’

(b) The area protected on both sides of Type 4 waters, measured horizontally from the bankfull width. (See WAC 222-30-021 (2).)

(2) In eastern Washington

(a) The area protected on each side of a Type 1, 2 or 3 water measured horizontally from the bankfull width or the CMZ, whichever is greater (see table below), and

Site Class	Eastern Washington Total RMZ Width (ft)
I	130’
II	110’
III	90’ or 110’ *
IV	75’ or 100’ *
V	75’ or 100’ *

* dependent upon stream size. (See WAC 222-30-022.)

(b) The area protected on both sides of Type 4 waters, measured horizontally from the bankfull width. (See WAC 222-30-022 (2).)

(3) For both western and eastern Washington, the area within the equipment limitation zone on Type 4 and Type 5 waters.

(4) For exempt 20-acre parcels, a specified area alongside Type 1, 2 and 3 waters where specific measures are taken to protect water quality and fish and wildlife habitat.

RMZ core zone –

(1) For western Washington, the 50-foot buffer measured horizontally outside of the bankfull width or the channel migration zone, whichever is greater, of a Type 1, 2 or 3 water (see WAC 222-30-021).

(2) For eastern Washington, the 30-foot buffer measured horizontally outside of the bankfull width or the channel migration zone, whichever is greater, of a Type 1, 2 or 3 water (see WAC 22230-022).

RMZ inner zone –

(1) For western Washington, the area measured horizontally from the outside boundary of the core zone of a Type 1, 2, or 3 water to the outer limit of the inner zone. The outer limit of the inner zone is determined based on the width of the affected water, site class, and the management action chosen for timber harvest within the inner zone (see WAC 222-30-021).

(2) For Eastern Washington, the area measured horizontally between the outer boundary of the core zone and a line 45 feet (for streams less than 15 feet wide) or 70 feet (for streams more than 15 feet wide) from the bankfull width or the channel migration zone, whichever is greater (see WAC 222-30-022).

RMZ outer zone – The area measured horizontally between the outer extent of the inner zone and the RMZ width as specified in riparian management zone definition above. Width is measured from the bankfull width or the channel migration zone, whichever is greater (see WAC 222-30-021 and 22-30-022).

Riparian zone – A narrow band of moist soils and distinctive vegetation along the banks of lakes and streams; in the HCP, the portion of the riparian ecosystem between the aquatic zone and the direct influence zone (uplands).

Salmonid – Fish species belonging to the family Salmonidae, including trout, salmon, char, and whitefish species.

Scoping – Determining the range of proposed actions, alternatives, and impacts to be discussed in an EIS (WAC 197-11-793).

Seasonal stream – The meaning given to such term in paragraph B.I(c)(iii) of Appendix B.

Selective harvest – A general term for partial cutting or salvage cutting in which individual trees are removed.

Sensitive sites – Any of the following:

(1) A headwall seep is a seep located at the toe of a cliff or other steep topographical feature and at the head a Type 4 water that connects to the channel network via overland flow, and is characterized by loose substrate and fractured bedrock with perennial water at or near the surface throughout the year.

(2) A side-slope seep is a seep within 100 feet of a Type 4 water located on side-slopes steeper than 20 percent, connected to the channel network via overland flow, and characterized by loose substrate and fractured bedrock with perennial water at or near the surface throughout the year. Water flow to the Type 4 channel is visible by someone standing in or near the stream.

(3) A side-slope spring is an identified spring within 100 feet of a Type 4 water that is the initiation point for a stream, and is connected to the channel network via perennial channelized flow.

(4) Perennial initiation point means the place where perennial flow begins on a Type 4 Water. (See WAC 222-16-010 definition for more details.)

(5) An alluvial fan is a depositional landform consisting of typically cone-shaped deposit of water-borne, often coarse-sized sediments.

(a) The upstream end of the fan (cone apex) is typically characterized by a distinct downstream increase in channel width where a stream emerges from a narrow valley;

(b) The downstream edge of the fan is defined as the sediment confluence with a Type 1, 2, or 3 Water; and

(c) The lateral margins of a fan are characterized by distinct local changes in elevation, and commonly show disturbed vegetation.

Sensitive species – A state designation. State sensitive species are species native to Washington that are vulnerable or declining, and are likely to become endangered or threatened in a significant portion of their ranges within the state without cooperative management or the removal of threats.

Seral stages – One of the developmental stages that succeed each other as an ecosystem changes over time; specifically, the stages of ecological succession as a forest develops. There are various subdivisions for seral stages, e.g., (1) early seral stage; mid-seral stage; and late seral stage; (2) young forest; mature forest; and old-growth forest; (3) grass-forb; shrub; open sapling-pole; closed sapling-pole-sawtimber; large sawtimber; and old growth; and (4) stand initiation; stem exclusion; understory reinitiation; and old growth.

Silt – Sedimentary material composed of fine particles, suspended in or deposited by water; mud or fine earth in suspension.

Siltation – The deposition or accumulation of sediment that is suspended throughout a body of standing water or in some considerable portion of it; especially the choking, filling, or covering with stream-deposited silt or sand behind a place of retarded flow.

Silviculture – The theory and practice of controlling the establishment, composition, growth, and quality of forest stands in order to achieve management objectives.

Sink area (biology) – The area in which local mortality rate exceeds local reproductive rate. Because mortality exceeds reproduction, populations in these areas would go extinct without immigration from source areas.

Site class – A grouping of site indices that are used to determine the 100-year site class. The site index from the state soil survey, corresponding site class. The site class will then drive the RMZ width. (See WAC 222-30-021 and 222-30-022.):

(1) For western Washington

Site class	50-year site index range (state soil survey)
I	137+
II	119-136
III	97-118
IV	76-96
V	≤75

(2) For eastern Washington

Site class	100-year site index range (state soil survey)	50-year site index range (state soil survey)
I	120+	86+
II	101-120	72-85
III	81-100	58-71
IV	61-80	44-57
V	≤60	<44

For purposes of this definition, the site index at any location will be the site index reported by the *Washington State Department of Natural Resources State Soil Survey*, and detailed in the associated forest soil summary sheets.

If the site index reported by the *Washington State Department of Natural Resources State Soil Survey* is nonexistent or indicates noncommercial or marginal commercial species, or the major species table indicates red alder, the following apply:

(a) If the site index in the soil survey is for red alder, and the whole RMZ width is within that site index, then use site class V. If the red alder site index is only for a portion of the RMZ width, then use the site class for conifer in the adjacent soil polygon.

(b) If there is no data on site index, use same procedure as for red alder.

(c) If the site index is noncommercial or marginally commercial then use the same procedure as for red alder.

Site index – A measure of forest productivity, expressed as the height of the dominant trees in a stand at an index age.

Site potential tree height (SPTH) - The height represented by the approximate mid-point of one of five site classes projected to a stand age of 100 years, as in the following table:

Region	Site Class	Site Potential Tree Height
West side	I	200
	II	170
	III	140
	IV	110
	V	90
East side	I	130
	II	110
	III	90
	IV	70
	V	60

SPTH numbers in the preceding table were derived from Douglas-fir stands. SPTH for a stand age of 250 years are also presented within the main body of the EIS.

Slump – A landslide characterized by movement of a mass of rock or earth along a typically curved slip surface (concave upward). Sliding is normally about an axis across to the slope from which it descends, and by backward tilting of the mass so that the slump surface commonly exhibits a reversed slope facing uphill.

Snag – A dead tree that is still standing.

Stand – A group of trees that possess sufficient uniformity in composition, structure, age, spatial arrangement, or condition to distinguish them from adjacent groups.

Stand conversion – The conversion of stands from low-commercial value species to more valuable species; also called stand rehabilitation.

State Environmental Policy Act (SEPA) – This law (chapter 43.21C RCW) is the basic state statute for protection of the environment. SEPA requires all state agencies to consider and analyze all significant environmental impacts of any action proposed by those agencies; to inform and involve the public in the agencies' decision-making processes; and to consider the environmental impacts in the agencies' decision-making processes.

Stream-adjacent parallel road – A road in a riparian management zone with an alignment parallel to the stream. Included are stream crossings where the alignment of the road continues parallel to the stream for more than 250 feet on either side of the stream. Not included are federal, state, county or municipal roads that are not subject to forest practices rules, or roads of another adjacent landowner.

Succession – A series of changes by which one group of organisms succeeds another group in an ecosystem; a series of developmental stages in a community.

Taking – A prohibited action under federal law, except where authorized. To take as to harass, harm, pursue, hunt, wound, kill, trap, capture, or collect a federally listed threatened or endangered species, or to attempt to do so. Taking may include disturbance of the listed species, nest, or habitat, when disturbance is extensive enough to disrupt normal behavioral patterns for the species, although the affected individuals may not actually die. See also harm and incidental take.

Talus – A deposit of rock rubble, ranging in size from 1 inch to 6.5 feet; derived from and lying at the base of a cliff or very steep, rocky slope.

Threaten public safety – To increase the risk to the public at large from snow avalanches, identified in consultation with the department of transportation or a local government, or landslides or debris torrents caused or triggered by forest practices.

Threatened and endangered species – Formal classifications of species. Federal designations are made by the USFWS or NMFS; state of Washington designations are made by the Washington Fish and Wildlife Commission (RCW 77.08.010). See also candidate species, endangered species, proposed threatened or endangered species, sensitive species, and threatened species.

Trust land – Lands held in trust and managed by the DNR for the benefit of a trust beneficiary.

Turbidity – The relative lack of clarity of water, which may be affected by material in suspension.

Uncommon habitat – A category of forested and nonforested habitats including cliffs, caves, talus slopes, oak woodlands, and very large, old trees. A habitat description for DNR-managed lands.

Understory canopy – Forest undergrowth; the lowest canopy layer of trees and woody species. See also canopy and overstory canopy.

Uneven-aged – Forests composed of trees that differ markedly in age; may be a result of partial cutting practices or natural disturbance.

USFWS – The U.S. Fish and Wildlife Service, which is the federal agency that is the listing authority for species other than marine mammals and anadromous fish under the federal Endangered Species Act.

Validation monitoring – Monitoring conducted as part of a research program to validate assumptions that are basis for resource protection measures and to clarify uncertainties regarding the effects of management activities.

Viable population – A population that is of sufficient size and distribution to be able to persist for a long period of time in the face of demographic variations, random events that influence the genetic composition of the population, and fluctuations in environmental conditions, including some catastrophic events.

Washington Administrative Code (WAC) – The compilation of all current, permanent rules of state agencies.

Water quality classification – Washington State Department of Ecology water quality standards; specifications are given in WAC 173-201-045. Class AA water is "extraordinary," Class A water is "excellent," Class B water is "good," and so on.

Water resource inventory area (WRIA) – Watershed-based planning unit, defined by the Washington State Department of Ecology. The 62 WRIAs are determined by drainages to common water bodies.

Water typing system – A simplified explanation of Washington's classifications of water types appears here. (For the complete classification system, see WAC 222-16-030.)

> **Type 1:** All waters, within their ordinary high-water mark, as inventoried as shorelines of the state under the SMA.
>
> **Type 2:** Segments of natural waters that are not Type 1 and have a high use and are important from a water quality standpoint for domestic water supplies; public recreation; fish spawning, rearing, or migration or wildlife use; are highly significant to protect water quality.
>
> **Type 3:** Segments of natural waters that are not Type 1 or 2 and are moderately important from a water quality standpoint for: domestic use; public recreation; fish spawning, rearing, or migration or wildlife uses; or have moderate value to protect water quality.
>
> **Type 4:** Segments of natural waters that are not Type 1, 2, or 3, and for the purpose of protecting water quality downstream are classified as Type 4 Water upstream until the channel width becomes less than two feet in width between the ordinary high-water marks. These may be perennial or intermittent.
>
> **Type 5:** Natural waters that are not Type 1, 2, 3, or 4; including streams with or without well-defined channels, areas of perennial or intermittent seepage, ponds, natural sinks and drainage ways having short periods of spring or storm runoff.
>
> Under Alternative 2 and the Forests and Fish Report, three water types are proposed as follows:
>
> - Type S: All waters inventoried as "shorelines of the state."
> - Type F: Waters not classified as Type S, which contain fish habitat. It also includes some waters diverted for domestic and fish hatchery use.

- Type N: Waters not classified as Type S or F, which are either perennial streams or are physically connected by an above-ground channel system to downstream waters such that water or sediment initially delivered to such waters will eventually be delivered to Type S or F waters. Type N waters include two subcategories: seasonal and perennial streams.

Watershed – The drainage basin contributing water, organic matter, dissolved nutrients, and sediments to a stream or lake.

Watershed administrative unit (WAU) – In Washington, the hydrologic area unit used for watershed analysis. See WAC 222-22-020 for more information.

Watershed analysis – A systematic procedure for characterizing watershed and ecological processes to meet specific management objectives; provides a basis for resource management planning. In Washington, the assessment of a WAU completed under forest practices rules (Chapter 222-22 WAC).

Western Washington – The geographic area of Washington west of the Cascade crest and the drainages defined in "eastern Washington."

Wetland – An area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support (and under normal circumstances does support) a prevalence of vegetation typically adapted for life in saturated soil conditions; includes swamps, bogs, fens, and similar areas.

Wetland management zone (WMZ) – Zones within in Type A and Type B wetlands, measured horizontally from the wetland edge or the point where the nonforested wetland becomes a forested wetland. WMZs have variable widths based on the size of the wetland and wetland type. WMZ widths are specified in WAC 222-30-020.

Wetland typing system – A simplified explanation of Washington's classifications of wetland types appears here. For the complete classification system, see WAC 222-16-035.

Nonforested wetland – Any wetland or portion thereof that has (or if the trees were mature would have) a crown closure of less than 30 percent. There are two types of nonforested wetlands. A Type A Wetland is: (1) greater than 0.5 acre in size; (2) associated with at least 0.5 acre of ponded or standing open water; or (3) are bogs and fens greater than 0.25 acre. All other nonforested wetlands greater than 0.25 acre are Type B wetlands.

Forested wetland – Any wetland or portion thereof that has (or if the trees were mature would have) a crown closure of 30 percent or more.

Wildlife tree – Wildlife trees include large live trees, snags, cavities, and down logs that provide forest-habitat structures for wildlife.

Wind buffer – As defined for the HCP's west-side planning units, the outer buffer of the riparian management zone that maintains the ecological integrity of the riparian buffer by reducing windthrow.

Windthrow – Trees blown down by wind; also called blowdown.

Yarding – Transporting logs from the point of felling to a collecting point or landing.

Yarding corridor – A narrow, linear path through a stand (especially with a riparian management zone) to allow suspended cables necessary to support cable yarding methods, and suspended or partially suspended logs to be transported through these areas by cable yarding methods.